BUSINESS OUTLOOK '88

St. John's Board of Trade

THE MINERAL INDUSTRY OF NEWFOUNDLAND AND LABRADOR

Review for 1987
and
Outlook for 1988

NOTES TO ACCOMPANY AN ADDRESS BY
Dr. Rex Gibbons
Newfoundland Department of Mines

January 22, 1988

89-03013

THE MINERAL INDUSTRY OF NEWFOUNDLAND AND LABRADOR

Review for 1987 and Outlook for 1988

compiled by

Dr. Rex Gibbons
Newfoundland Department of Mines
P.O. Box 4750
St. John's, Newfoundland A1C 5T7

INTRODUCTION

Mining - a billion dollar industry. For three years in a row, 1979, 1980, and 1981, it exceeded a billion dollars in value of production. But it has not reached that level again since the recession of 1982.

In 1981, the total value of production was $1,030,263,000. Iron ore alone was $886,843,000 (86.1% of the total).

By 1985, the value of production was $869,727,000 (a drop of 15.6%), of which iron ore accounted for $774,802,000 (89.1%). Since 1981, both the Buchans and Rambler base metal mines had closed, and the value of iron ore production had dropped by 12.6%, accounting for the decrease.

In 1986, the value of production was $817,339,000 (a further drop of 6%) with iron ore accounting for $761,328,000 (93.1%). The decrease in iron value from 1985 to 1986 was only about $13.5 million (1.7%) but the decrease in other commodities was almost $39 million (41%). This latter was accounted for to a large part by the temporary closure of Nfld Zinc Mines Ltd. in 1986.

The "preliminary" values of production for 1987 were released in mid-January, 1987, by the federal department of Energy, Mines and Resources. For Newfoundland and Labrador, the total value was off by another 6.1% from 1986 to $767,816,000. Iron ore was down by about $76 million (10%) to $685,423,000, and accounted for the decrease. In other products, there was an increase to $82,393,000 in 1987 from $56,011,000 in 1986, a positive change of 47.1%. This was primarily due to the reopening of Nfld Zinc Mines Ltd. in mid-1987 as well as start of production at Hope Brook Gold Inc. and improved asbestos sales by Baie Verte Mines Inc.

Nonmetals, including asbestos, gypsum, fluorspar, silica, pyrophyllite and peat, and structural materials, including aggregates, cement, and clay products (brick), totalled $57,498,000 in 1987, a fair improvement over a total of $49,071,000 in 1986.

TABLE 1: VALUE OF MINERAL PRODUCTION

Year	Total $	Iron Ore $	Iron %
1981	$1,030,263,000	$886,843,000	86.1
1982	646,762,000	572,386,000	88.5
1983	807,003,000	711,727,000	88.2
1984	979,224,000	851,420,000	86.9
1985	869,727,000	774,802,000	89.1
1986	817,339,000	761,328,000	93.1
1987	767,816,000*	685,423,000*	89.3*

* Preliminary

Table 2: VALUE EXCLUDING IRON ORE

Year	Value	Percentage of Total
1981	$143,420,000	13.9
1982	$ 74,376,000	11.5
1983	$ 95,276,000	11.8
1984	$127,804,000	13.1
1985	$ 94,925,000	10.9
1986	$ 56,011,000	6.9
1987*	$ 82,393,000*	10.7*

*Preliminary

The outlook for 1988 is quite positive.

In the iron ore sector, both I.O.C.C. and Wabush forecast improvements over 1987. Compared to total concentrate production of about 18.5 million tonnes in 1987, they project 19.5 million tonnes in 1988. Each company is also forecasting a million tonne increase in pellet production in 1988.

The price of zinc has improved, and Newfoundland Zinc Mines Limited forecasts the production of 75 million pounds of zinc concentrate in 1988.

Hope Brook Gold Inc. will continue its open pit mining and heap leaching throughout 1988, and expects its underground mine and mill to be ready for operation on schedule in the Fall, 1988.

Other operators also expect improvements over 1987, including Nfld. Minerals, Baie Verte Mines Inc., Dunville Mining,and St. Lawrence Fluorspar. The only major negative is St. George's Gypsum Ltd. at Flat Bay, which closed down in the Fall, 1987. This operation is up for sale, and a Government-company divestiture committee is still seeking a buyer for it.

Another big positive for 1988 is in mineral exploration. The year 1987 was our best ever in claim staking and related exploration, with the major impetus coming from gold. This year, 1988, looks like it will also be a very active year as drilling and more grassroots exploration are expected to

continue at a high pace at a number of hot spots around the province.

In general, then, based on present forecasts for the various sectors, 1988 should be significantly better than 1987 in terms of total value of production, with improvements in every sector.

The detailed reviews of the various sectors, given next, tell how the different companies see their operations in 1988.

IRON ORE

Iron Ore Company of Canada, Labrador City

In 1987 concentrate production was 13,500,000 tonnes, down 5% from 1986, while pellet production was 8,900,000 tonnes, a decline of 7%.

For the first time, three types of pellets were produced to meet market requirements. These are Acid, Fluxed, and Low Fluxed (3% silica).

Steel markets are forecasted to be buoyant during the first half of 1988 and this is being reflected in an increased demand for iron ore, particularly pellets. The 1988 production for pellets will increase to the plant capacity of 10,000,000 tonnes, with concentrate being approximately equivalent to the 1987 level.

In 1987 the work force increased to 1600 from 1540 in 1986.

The value of product sold was approximately $340,000,000 U.S.

In addition, the company continued to operate a dolomite quarry adjacent to the Carol Project which produced 175,000 tonnes for use in the fluxed pellet runs.

A new tailings disposal system costing $5,000,000 will go on line in January, 1988.

A program of R & D is now in place which will concentrate on improving the recovery of iron units from the crude ore.

1988 is expected to be a relatively good one for the Iron Ore Company.

Wabush Mines Limited, Wabush, Labrador

After some downtime due to a strike in the winter of 1987, this operation ran at full capacity for the rest of the year and produced about 5 million tonnes of iron ore concentrate. This was up from production of 4.6 million tonnes in 1986. The present forecast for 1988 is 6 million tonnes, which represents full capacity operating 24 hours per day for every day of the year. All of this concentrate is made into low silica (2.6%) pellets at Point Noire.

Employment at Wabush for 1988 is expected to be between 535 and 550, with more during the summer as seasonal and vacation relief people are hired.

The markets for Wabush iron ore are about 44% Canadian (Dofasco and

Stelco), 50% American (several steel companies), and 6% European (Finsider, Italy). In 1988, Wabush will also actively market on the open market in Europe.

Ore reserves at Wabush in the Scully mine total about 300 million tonnes of concentrate (enough for 50 to 60 years at the present production rate).

Manganese occurs as a small component of the iron ore in the Scully mine. Before 1987, Wabush produced pellets averaging 1.95% manganese. In 1987, the company produced a lower manganese pellet of about 1.65% by ore blending. Since some buyers prefer the high Mn pellet and others want the low Mn, Wabush plans to produce various grades in 1988 to satisfy market demand.

Also in an effort to improve productivity, Wabush has been doing some research with the help of the federal and provincial governments under the Canada-Newfoundland Mineral Development Agreement to improve iron unit recovery in its mill. The aim is to increase recovery to about 75%.

In general, stockpiles are low and optimism is high for Wabush going into 1988.

BASE METALS

Zinc - Newfoundland Zinc Mines Limited, Daniel's Harbour

In 1987, Newfoundland Zinc Mines Limited reopened in mid-year and started milling ore in mid-September, after which it milled 145,000 tonnes of ore averaging 7.0% zinc and produced about 19 million pounds of zinc concentrate.

Employment in 1987 was 145 to 150 people while operating. The projection for 1988 is the same.

Ore reserves at this mine as of October 1, 1987 totalled about 800,000 tons at 7.9% zinc. The company projects that it will mill 540,000 tons averaging 7.8% zinc in 1988, to produce about 75 million pounds of zinc concentrate. This product will be marketed in the United States and Europe. The company is also carrying out a $500,000 exploration program in an effort to extend the ore reserves.

GYPSUM

Flat Bay Gypsum Mine, St. George's Gypsum Mines Inc.

This gypsum mine in western Newfoundland supplied minus eight inch gypsum to wallboard manufacturing plants and the cement industry. Most of the production went to wallboard plants in Camden, New Jersey and Savannah, Georgia in the United States; smaller amounts have been supplied to a wallboard plant at Atlantic Gypsum Ltd. and to North Star Cement Ltd., both in Corner Brook.

This operation was owned by Genstar until February, 1987, when all of Genstar's gypsum and wallboard operations were purchased by Domtar. Shortly after, Domtar announced that it planned to close down the operation, and a joint company-government divestiture team was put in place to sell it.

Operations ceased in the Fall, 1987, after producing about 400,000 tonnes for the year. The divestiture team is continuing to seek a potential new operator.

Gypsum Wallboard, Atlantic Gypsum Limited, Corner Brook

This is a wallboard manufacturing company which obtains its gypsum from Flat Bay.

Production in 1987 totalled 57,000 tons of gyproc wallboard, down about 5% from 1986. Operations were five days per week for 27 weeks and seven days per week for 24 weeks, with downtime of one week for repairs. Employment for 1987 was stable at 95-100 union personnel and 12 staff.

Products in 1987 were 85% regular gypsum wallboard and 15% type X high fire resistant wallboard. Markets in 1987 included 50% Newfoundland and 50% the Canadian Maritime provinces.

For 1988, the company does not expect any increase in production because it plans a 6-week shutdown in April and May for plant modernization. It is installing a complete new board line and automatic takeoff and bundling machine which will improve production efficiency and probably result in some reduction in personnel.

SILICA

Dunville Mining Company, Villa Marie, Placentia Bay (Albright and Wilson)

This silica operation went into production in 1968 as a source of silica for the phosphorus plant at Long Harbour. Silica is used as a flux in the transformation of phosphate rock into elemental phosphorus.

The company normally operates from April to November, day shift only, 5 days per week, producing material grading about 95% silica. Production in 1987 was 116,000 tonnes and the forecast for 1988 is 120,000 tonnes. Ore reserves are approximately 3 million tonnes.

Employment in 1987 averaged 8 people during the production period, and is expected to be the same in 1988.

At Long Harbour, adjacent to the phosphorus operations, Albright and Wilson has installed an aggregate crushing plant and shiploading facility which went into operation in December, 1985. It is designed to produce and ship about 320,000 tonnes of crushed slag aggregate in the form of five different size products. Markets are in the state of Florida, where the slag is used for asphalt mixes and drainage systems.

The plant obtains its raw material from the phosphorus furnaces. About 170,000 tonnes of crushed slag was produced and 116,000 tonnes shipped in 1987; the company forecasts 240,000 tonnes of production and 270,000 tonnes of shipments for 1988.

The slag aggregate is shipped in the same ships that bring phosphate rock from Florida. The system has the capability to load 1000 tonnes/hour for 48,000 tonne shipments. Existing sales contracts extend to the mid-1990s.

PYROPHYLLITE

Newfoundland Minerals Limited, Manuels, Conception Bay

Newfoundland Minerals Limited, the only producer of pyrophyllite in Canada, is a year-round operation employing 17 people.

The value of production (depending on the price of pyrophyllite in the U.S. market) for 1987 and 1988 will be approximately $1.5 to $2 million.

During 1985 and 1986, the company carried out an extensive diamond drilling program in an effort to define the ore limits. Currently, ore reserves are expected to maintain the operation to go into the next century.

During 1987, most of the product was shipped to the U.S. for use in the ceramic tile industry. The U.S. will still be the main market again in 1988, with the possibility of a shipment to Europe.

The company hopes to sell lower grade material in 1988 and the future, especially aggregates. It moves about a quarter of a million tonnes of this material annually, and is now assessing the potential to sell it rather than place it in a waste pile.

Waste rock from the operation is popular for fireplaces, stone walls, chimneys and general home exterior decoration. A small amount of ore grade material is used by local artists for carving.

BRICK SHALE

Trinity Brick Products Limited, Milton

Shale is quarried on Random Island for the manufacture of brick at Milton. This plant has been in operation since 1886, with intermittent shutdowns and many renovations and additions over the years. It has a capacity to produce about 110,000 bricks per week, which translates to about 5.5 million bricks per year.

Production in 1987 totalled 1.9 million bricks for the year, and the plant only operated from June to October. Production in 1988 is forecast to be about 3 million bricks, as demand is expected to increase. The plant is expected to be in operation this year by April or May.

Milton bricks are marketed primarily throughout Newfoundland. Some are shipped to Labrador.

Employment in 1987 totalled about 33 plant workers; the same number is expected during the production period in 1988.

CEMENT

North Star Cement Limited, Corner Brook

North Star Cement Limited operates limestone and shale quarries at Corner Brook. These two products, plus some gypsum from Flat Bay, are used in the production of cement at North Star's plant in Corner Brook.

North Star operated from June 1 to November 30 in 1987, and had its normal annual shutdown for the remainder of the year.

Sales totalled 81,000 metric tonnes for 1987; the forecast for 1988 is approximately the same. Production for 1988 is expected to start about May 1.

Employment during the production period in 1987 was about 100 employees plus some casuals. No change is excepted for 1988.

As a result of a major modernization project in 1986, North Star now has an annual capacity of 150,000 tonnes and has the capability to make special cements as well as the normal portland. Two specials, masonry and high-early (quick setting), were produced for the first time in 1987. North Star has also constructed a bulk terminal at Long Pond, Conception Bay, which started operation in 1986. Bulk cement for customers on the Avalon and Burin Peninsulas is transported from Corner Brook to Long Pond by a special self-unloading vessel.

Markets for North Star cement are primarily Newfoundland.

ASBESTOS

Baie Verte Mines Inc., Baie Verte

Baie Verte Mines Inc. has operated the former Advocate asbestos mine at Baie Verte since September, 1982.

The year 1987 was by far the most successful year of operation since reactivation, with highest levels achieved in practically all production, employment and financial areas.

The company's Mine Department operated continuously on a major waste removal program with a 20 shift/wk. schedule. Total mined tonnage will exceed 15,000,000 metric tonnes.

Milling and Crushing sections ran on a 10 shift/wk. schedule in March, continuing until April 10, when spring flooding cut off the ore supply and forced a sudden halt to operations.

Production resumed on May 11 and a 15 shift/wk. schedule was maintained until December 7, when two-shift scheduling was again instituted. This scheduling provided in excess of 60,000 metric tonnes of fibre. Previous high production was 55,110 in 1984 with the 1986 figure at 38,526.

The grade split for 1987 shows a predominance of 5 Group fibre with the actual percentage showing 22% Group 4, 58% Group 5 and 20% Group 6. This

grade mix was, for the most part, determined by market demands.

Shipments will exceed 60,000 tonnes with 71% going to the Asian market, 13% to Europe, 9% to South America and the remaining 7% to Mexico, Nigeria, Chile and Colombia. Thailand and India are the major Asian markets with Germany leading the European customers.

The waste removal program will continue for the first four months of 1988 at a rate of 1.5 million tonnes per month. The company will then reduce to its long-term mining plan which will require rock movement in the order of 500,000 tonnes per month.

Fibre production is planned at 60,000 for the year 1988. This will be achieved by continuous production on a 10 shift/wk. schedule.

Prices appeared to be on the increase in the latter part of 1987 and predictions for 1988 are for a 10-15% improvement.

Such a forecast bodes well for the company's proposed Wet Process Mill. The current plan would see a Project Management and Design Group begin work in April of 1988, construction to start in July with the first product from the Wet Process system produced by March 1989.

With present reserves expected to take the mine into 1994-1995, initial feed for the Wet Mill will be current tailings as they are produced.

Subsequent supply of material will come from the 40,000,000 tonnes of tailings currently stockpiled.

Strong market demand, improving prices and a patented unique process give rise to much optimism for the long range future prospects of the operation.

Employment levels for 1987 were 46 staff and 330-340 hourly employees. This level is expected to continue until the end of April, 1988, when the level will drop to 30-35 staff and about 200 hourly, after the conclusion of the major waste removal program.

FLUORSPAR

St. Lawrence Fluorspar Limited

St. Lawrence Fluorspar Ltd. produced and shipped its first fluorspar in 1987.

The mill was commissioned mechanically and electrically during the Spring, 1987. It reached commercial production in July. The type of product is acid grade fluorspar filter cake with a minimum of 97.0% CaF_2 and a maximum of 1.0% SiO_2. The mill is designed to produce 80,000 t of filter cake annually, based on 7 days/week operation. The hourly design capacity is 11 t.

Of the four shipments in 1987, three were shipped to the USA and one to the UK. Because the major producers of hydrofluoric acid are located in the USA, and the proximity to St. Lawrence, the American market is the preferred

one. The company has also received inquiries from countries in Europe, Africa and Asia.

The company has been carrying out exploration and development work both on the surface and underground. Approximately 65% of development work for underground mining at Blue Beach North has been completed. Surface trenching is being carried out across various veins to verify open pit potential. Blue Beach North No. 2 and Tarefare open pits have been exhausted. Blowout and Rosy Ridge open pits are presently in the developing stage. Other sites have also been identified.

Presently, the company has about 165,000 tons of indicated open pit reserves grading an average of 49% CaF_2. It also has about 2.5 million tons of proven and indicated and 3.5 million tons of inferred underground reserves, grading an average of 53% CaF_2.

During 1987, employment levels reached 9 in administration, 34 in the mine and 30 in the mill. Mill operation was 3.5 days/week during the operating period.

Due to marketing problems, the operation was temporarily stopped in early November, 1987; it restarted in mid-January, 1988.

For 1988, the company is forecasting that underground development will continue at Blue Beach North deposit. The current 3.5 days/week mill operation is expected to be increased to 5 days/week in February. If market development continues to improve, a full scale operation of 7 days/week will be reached during 1988. An increase in staff is planned during 1988 due to mine expansion and the increased mill operation.

SLATE

Island Tile and Slate Company

In 1986, the Island Tile and Slate Company began producing slate from a quarry at Nut Cove, near Bourgoyne's Cove, Trinity Bay. The slate in the quarry can be used to produce red, green and purple products for a variety of uses, including roofing and floor tiles.

The company employed up to 32 people during its production period in 1987. It produced primarily floor tile and some roof tile. Some of this output was shipped to the United States and some was sold locally in Newfoundland, for example, the floor in the Housing Corporation Building on Columbus Drive, St. John's.

Currently, the finished products are shipped from the site by barge. It is expected that a road will be constructed to the site from Bourgoyne's Cove in 1988.

The company anticipates increased production and sales in 1988. It already has a contract to provide roofing tile for the Hearts Content Cable Museum.

GOLD

Hope Brook Gold Inc.

BP-Selco made its first announcement on August 22, 1984 of a new gold discovery near Cinq Cerf Brook on Newfoundland's South Coast. Exploration continued throughout 1984 and 1985, and on December 11, 1985, BP announced that it had estimated a preliminary drill-indicated mineral reserve of 11.2 million tonnes at an average grade of 4.54 grams per tonne of gold between the surface and a vertical depth of 400 metres. The tonnage was calculated using a cut-off grade of 2 grams per tonne and a minimum mining width of 5 metres. Calculation of a mining reserve was done in 1986 as a feasibility study was carried out on the project.

Engineering and baseline environmental studies were undertaken in 1985. In mid-January, 1986, BP registered the project as the Hope Brook Mine with the provincial government under the Environmental Assessment Act.

In mid-1986, Hope Brook Gold Inc. was formed as a publicly traded company with BP as the majority shareholder, and a decision was made to proceed with development of a gold mining and milling complex approximately 5 kilometres inland from Couteau Bay on Newfoundland's South Coast.

Construction at the site was started in September, 1986. Just 12 months later, on September 24, 1987, Premier Brian Peckford of Newfoundland participated at the pouring of the first production gold bar at the Hope Brook mine. The ceremony marked the official start of the first phase of mine development, a 1,600 tonnes-per-day open pit mining and heap leaching operation.

During the 17-month life of this phase, it is anticipated that some 75,000 ounces of gold will be produced.

Development of a 3,000 tonnes-per-day underground mine and construction of a conventional gold mill are in progress; construction is about 65% complete. These facilities are scheduled to begin production in the last quarter of 1988. It is forecast that, during the 10-year life, an annual average of 126,000 ounces of gold will be produced. There is no road access to the Hope Brook site. Both during construction and operation, almost all personnel, equipment and material will be transported by sea, mostly by the company's leased vessel, the Couteau Supplier. This method of transportation has worked very successfully to date.

In full production, Hope Brook will provide about 245 jobs at the mine site and 25 more at the administrative centre in Corner Brook. About half of these have already been recruited, over 90 percent of whom are Newfoundlanders.

MINERAL EXPLORATION

In 1985, a record was set for claims as 15,162 new claims were staked during the year and 28,461 were in good standing on December 31, the highest numbers ever in the province. The past year, 1987, was also a banner year. New records were set all round, as 20,669 new claims were staked and 45,108 were in good standing as of December 31.

Table 3: CLAIM STAKING

Year	New Claims	Total Dec. 31
1983	4,522	15,288
1984	11,048	19,662
1985	15,162	28,461
1986	14,594	32,098
1987*	20,669*	45,108*

*Preliminary

The big push in exploration continues to come from gold, as several areas of the province are targets for gold exploration. I believe that a high level of activity will continue in 1988 as diamond drilling and other field surveys get carried out on recently staked claims, and further work is done on other potential gold and base metal areas of the province.

I will not go into detail on all the mineral exploration activity in the province. Those interested may obtain a copy of our Mineral Exploration Update, prepared regularly by the Department of Mines.

Below, however, I will review the status of some of the most interesting and promising areas of exploration activity in the province. These include: (1) Duck Pond-Tally Pond, (2) the Baie Verte Peninsula, (3) Western White Bay, (4) the Cape Ray gold project, (5) the Bay d'Espoir to Gander Lake area, and (6) industrial minerals.

Duck Pond-Tally Pond

On November 30, 1987, Noranda Exploration Co. Ltd. announced that it had proven reserves to that date of 3.6 million tonnes in the Duck Pond deposits, averaging 3.71% copper, 1.36% lead, 7.58% zinc, 72.34 gram/tonne silver, and 1.20 gram/tonne gold. The company said that drilling was continuing to further define the mineralized zone.

This prospect has to rate as probably the most likely candidate for the province's next metal mine.

Baie Verte Peninsula

This was one of the most active areas in the province in 1987 in terms of claim staking and exploration. Nearly half of the peninsula is staked.

One of the best gold prospects in the province is at Deer Cove near Mings Bight, where Noranda and its partner, Galveston Resources, spent about $3.2 million on underground and surface exploration in 1987. Work on this prospect will continue in 1988.

Another property getting a lot of attention here is the Rambler, most of which reverted to government under the Mineral Act in 1987. The Minister of Mines, Hon. Jerome Dinn, has called for proposals on the Rambler with a deadline of March 31, 1988.

Western White Bay

Several companies were active in the Jackson's Arm - Sops Arm area in 1987 on some interesting gold prospects. The area will be one of the hot spots again in 1988.

Cape Ray Gold Project

Dolphin Explorations Ltd. continued its surface and underground exploration on this prospect with an expenditure of about $4 million in 1987. In a news release on January 8, Dolphin stated that gold reserve potential had been increased to in excess of 2,000,000 tons, and activities have been initiated for road access and environmental approval for potential mining operations.

Bay d'Espoir to Gander Lake Area

One of the most interesting projects in this area is by Westfield Minerals and its partners in the Little River area near Bay d'Espoir. Westfield has been drilling some gold-bearing mineralization and had a budget of about three-quarters of a million dollars in 1987.

To the north toward Gander Lake, Jascan Resources Inc. and partners have been working on some interesting gold mineralization in the Great Bend area of the Gander River.

Both the above projects are expected to be hot spots again in 1988.

Industrial Minerals

Work is continuing in the Port au Port Peninsula area on the exploration and development of limestone and dolomite deposits. Production is scheduled to start by October, 1988, on Newfoundland Resources' Lower Cove project.

In the Fall, 1987, Hon. Jerome Dinn, Minister of Mines for Newfoundland, called for proposals for the development of marble deposits near Roddickton on the Great Northern Peninsula, and three were received by the deadline of December 31. These marbles are suitable for use as mineral fillers in the paint, plastics and paper industries.

Some exploration activity continued in 1987 on the salt and potash potential of the Bay St. George area.

OUTLOOK IN BRIEF

(1) **Value of production:** 1988 should be significantly higher than 1987, maybe by 10 percent or even more. The main contributors to this increase will be iron ore, gold and zinc.

(2) **Exploration:** 1988 should be another excellent year, following on the successes and activity of 1987. I am optimistic that at least one new metal mine will be announced before the end of 1988.

(3) **The dollar:** (a) One key to profitability in the mining sector is the difference in values between the U.S. and Canada dollars, since a large percentage of our mineral exports go to the U.S. A strengthening of our dollar relative to the U.S. is a negative for our mineral exports there.

(b) The dollar has lost significant value versus certain foreign currencies, e.g. Japan, West Germany, United Kingdom. This is a positive factor in the sale of minerals to these countries. However, the currencies of Brazil and Mexico have depreciated considerably relative to our dollar. Both of these countries are competitors for mineral sales (e.g. iron ore and fluorspar).

(4) **Iron Ore:** This sector is looking very good for 1988. However, we must never lose sight of the world situation. International markets are still oversupplied. For example, Australia suffered major production cuts in 1987 as Japan bought ore from India at lower prices. Japan has been moving away from long-term contracts. Prices in the U.S. are comparable to a year ago, except for a minor decrease for concentrate.

(5) **Gold:** At the beginning of 1986, it was $326.75 (U.S.$/oz.). On December 26, 1986, it was at $391.68 and, one year later, December 25, 1987, it was $481.50. Analysts who are specialists in the precious metals area have predicted that gold should be trading in the $250 to $350 range. Since gold is the driving force behind most of the exploration in the province, I hope these analysts continue to be wrong.

(6) **Zinc:** Since the price of zinc dropped to about 32 cents/lb(U.S.) and Nfld Zinc Mines Ltd. temporarily closed in early 1986, the price has improved considerably. On December 25, 1987, the U.S. high grade quote by Metals Week was 43.4 cents U.S./lb. Such a high price bodes well for the continuation of mining at Nfld Zinc Mines Ltd. until its ore reserves are exhausted, as well as for the potential development of Duck Pond-Tally Pond by Noranda.

(7) **Industrial Minerals:** Baie Verte Mines Inc. and St. Lawarence Fluorspar Ltd. both forecast improvements in 1988 for their products, asbestos and fluorspar respectively.

Also, the Lower Cove (Port au Port) limestone aggregate project is expected to be in production by the end of the year, and there is a possibility of a marble development near Roddickton.

Acknowledgements

I thank especially the company representatives who provided up-to-date information for this summary. I also thank my colleagues at the Newfoundland Department of Mines in St. John's and Energy, Mines and Resources Canada in Ottawa for their input, particularly for discussions of the longer term outlook for the industry and statistical information. The values in Tables 1 and 2 are from the Annual Census of Mines compiled by E.M.R. Ottawa. The claims statistics (Table 3) are from the provincial Mineral Lands and Mines Division.